Customer No.: 31561
Docket No.: 12877-US-PA
Application No.: 10/709,848

REMARKS

Present Status of the Application

Applicant has noted with great appreciation that the previous rejections under 35 U.S.C. 112, second paragraph, have been withdrawn.

In the outstanding non-final Office Action electrically delivered on June 6, 2007, the specification of the application has been objected to because it purportedly fails to explain sufficiently the subject matter which the Applicant regards as the invention. The drawings have also been objected to under 37 C.F.R. 1.83(a) for lack of showing every feature of the invention specified in the claims. Claim 35 has been objected to because of certain informalities. Moreover, claims 24, 31, 32, 35, 36, 43 and 44 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claims 25-30, 33-34, 37-42 and 45-46 have also been rejected as being dependent upon the rejection claims.

In response thereto, Applicant has amended claim 35 to obviate the objection thereto, and otherwise traverses other objections and rejections for at least the reasons set forth below. No new matter is introduced by the amendments. After entry of the above amendments and consideration of the following remarks, claims 24-46 remain pending in the present application. Reconsideration and withdrawal of the objections and rejections are courteously requested.

Discussion of Objections/Rejections

The specification of the application is objected to because it fails to explain

sufficiently the subject matter which the Applicant regards as the invention. The drawings are also objected to under 37 C.F.R. 1.83(a) for lack of showing every feature of the invention specified in the claims. Claims 24, 31, 32, 35, 36, 43 and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claims 25-30, 33-34, 37-42 and 45-46 are also rejected as being dependent upon the rejection claims.

In rejecting the specification, the Examiner has alleged on page 2 of the Office Action that the specification fails to explain specifically how the received signals are enhanced. Applicant respectfully disagrees because it is known to one skilled in the art that buffers are capable of "enhancing driving ability", and because the specification indeed provides the requisite support for the claimed buffer with respect to said enhancement of the driving ability.

One skilled in the art would have known that the "signal driving ability" refers to the load driving characteristics of the signal, such as a voltage of the signal, a current thereof, a power thereof, a frequency thereof, and so on. After the signal is transmitted through a high resistance signal path, the signal driving ability is weakened (e.g. the current of the signal is decreased). Thus, the present invention provides a transmitter to enhance the signal driving ability and to overcome the high resistance of the signal path.

Referring to FIG. 2B of the present invention, a transmitter 270 enhances the signal driving ability with use of buffers 272. According to the definition recited in Webster's Online Dictionary, a buffer denotes an electronic device to provide compatibility between two signals, e.g. changing voltage levels or current capability (see

http://www.websters-online-dictionary.org/definition/buffer). Additionally, with reference to pages 123-124 of "The Authoritative Dictionary of IEEE Standards Terms", Seventh Edition (enclosed herewith as Appendix I), the similar definition of the term "buffer" is also given as provided hereinafter.

> **buffer (1) (A) (supervisory control, data acquisition, and automatic control) (buffer storage)** A device in which data are stored temporarily, in the course of transmission from one point to another; used to compensate for a difference in the flow of data, or time of occurrence of events, when transmitting data from one device to another. (B) (supervisory con-
>
> counterweight. *See also:* elevator. (PE/EEC) [119]
> (4) A device or storage area used to store data temporarily to compensate for differences in rates of data flow, time or occurrence of events, or amounts of data that can be handled by the devices or processes involved in the transfer or use of the data. *Synonyms:* input-output area; output buffer; input buffer. (C) 610.10-1994w

Moreover, in U.S. patent numbered 7,167,149 (enclosed herewith as Appendix II) having one common inventor with the subject invention, it is disclosed that "[A] ccording to the conventional source driving circuit, the buffer 138 **is provided for enhancing the driving ability of the signal (such as the current of the signal)** without changing the signal characteristic (such as the voltage of the signal). In order to provide sufficient signal driving ability to the pixel, the conventional LCD 110 provides a buffer 138 at each source terminal. For example, if the LCD 110 has 400 source terminals, correspondingly 400buffers are required, and accordingly, the high power consumption thereof is substantially high." (column 1, lines 58-67).

Based on the above, it would have been obvious to those skilled in the art that the

to "enhance/enhancing driving ability" in the specification of the present invention provides should be deemed factually sufficient in support of the fact that the enhancement of the signals is processed in the buffers of the source driver.

For at least the foregoing reasons, it is submitted that the objection to the specification should be overcome. Likewise, the technical feature "enhances/enhancing driving ability of said clock signal, said display data, and said control signal" disclosed in claims 24, 31, 32, 35, 36, 43, and 44 is already illustrated in FIGs. 2B, 2D, 3C and 3D, and thus the objection to the drawings should also be obviated.

As regards the 112 rejections of claims 24, 31, 32, 35, 36, 43 and 44, Applicant respectfully submits that all the limitations recited therein, including the technical feature "enhances/enhancing driving ability", have been described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, in paragraph [0045] of the Applicant's specification, it recites, "[T]he source drivers receive the clock signal CLK, the display data DATA, and the control signal CONT to drive the display panel (such as the LCD panel 210 in FIG. 2), enhance the driving ability of the clock signal CLK, the display data DATA, and the control signal CONT, and then output those signals for the use of the source driver in the next stage." In paragraph [0047], it reads, "[T]he buffers 272 respectively receive the clock signal CLK, the display data DATA, and the control signal CONT, enhance their driving ability, and then output those enhanced clock signal OCLK, the display data ODATA, and the control signal OCONT." In paragraph [0050], it states, "[R]eferring to FIG. 2D, the receiver and the transmitter can be implemented by

a plurality of voltage buffers 280...The voltage buffers 280 respectively receive the clock signal CLK, the display data DATA, and the control signal CONT, enhance their driving ability and then output those enhanced clock signal OCLK, the display data ODATA, and the control signal OCONT." In paragraph [0053], it describes, "[T]he source drivers 330_1-330_n respectively receive the master/slave setting signals M_S_1 – M_S_n. The source drivers based on the master/slave setting signals operate in one of the master mode or the slave mode. When the source driver operates in the master mode, it will enhance the driving ability of the clock signal CLK, the display data DATA, and the control signal CONT."

In light of the foregoing, the claim limitation "enhances/enhancing driving ability" has been adequately explained and shown in the specification of the application, rendering claims 24, 31, 32, 35, 36, 43 and 44 compliant with the enablement requirement.

If independent claims 24 and 35 are allowable over the prior art of record, then their dependent claims 25-34 and 37-46 are allowable as a matter of law, because these dependent claims contain all features and elements of their respective independent claims 24 and 35. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Customer No.: 31561
Docket No.: 12877-US-PA
Application No.: 10/709,848

CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 24-46 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Date : Sept. 6, 2007

Respectfully submitted,

Belinda Lee

Belinda Lee
Registration No.: 46,863

Jianq Chyun Intellectual Property Office
7th Floor-1, No. 100
Roosevelt Road, Section 2
Taipei, 100
Taiwan
Tel: 011-886-2-2369-2800
Fax: 011-886-2-2369-7233
Email: belinda@jcipgroup.com.tw
Usa@jcipgroup.com.tw

Appendix I

IEEE 100
The Authoritative Dictionary of IEEE Standards Terms

Seventh Edition

IEEE
Published by
Standards Information Network
IEEE Press

...rks and disclaimers

...E believes the information in this publication is accurate as of its publication date; such information is subject ...change without notice. IEEE is not responsible for any inadvertent errors.

Other tradenames and trademarks in this document are those of their respective owners.

The Institute of Electrical and Electronics Engineering, Inc.
3 Park Avenue, New York, NY, 10016-5997, USA

To order IEEE Press publications, call 1-800-678-IEEE.

Print: ISBN 0-7381-2601-2 *SP1122*

Library of Congress Cataloging-in-Publication Data

IEEE 100 : the authoritative dictionary of IEEE standards terms.—7th ed.
p. cm.
ISBN 0-7381-2601-2 (paperback : alk. paper)
1. Electric engineering—Dictionaries. 2. Electronics—Dictionaries. 3. Computer engineering—Dictionaries. 4. Electric engineering—Acronyms. 5. Electronics—Acronyms. 6. Computer engineering—Acronyms. I. Institute of Electrical and Electronics Engineers.

TK9 .I28 2000
621.3'03—dc21 00-050601

brush width The dimension at right angles to the length and to the direction of rotation. *See also:* brush. (EEC/EM/LB) [101]

brush yoke *See:* brush rocker.

BS *See:* backspace character.

BSAM *See:* basic sequential access method.

B-scope A cathode-ray oscilloscope arranged to present a B-display. (ABS/RS) 686-1990

BSE *See:* Bus Error.

BSL *See:* basic switching impulse insulation level.

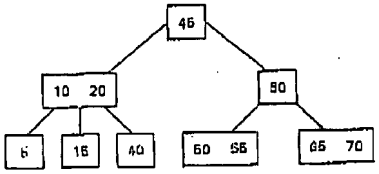
B stage An intermediate stage in the reaction of certain thermosetting resin in which the material swells when in contact with certain liquids and softens when heated, but may not entirely dissolve or fuse. *Note:* The resin in an uncured thermosetting moulding compound is usually in this stage. (PE) [9]

B switchboard (telephone switching systems) A telecommunications switchboard in a local central office, used primarily to complete calls received from other central offices. (COM) 312-1977w

BT The time required for one data bit to cross the Medium Independent Interface (MII)—Bit Time = 1/TxClk.local area networks. (C) 8802-12-1998

B-trace (navigation aid terms) (loran) The second (lower) trace on the scope display. (AES/GCS) 172-1983w

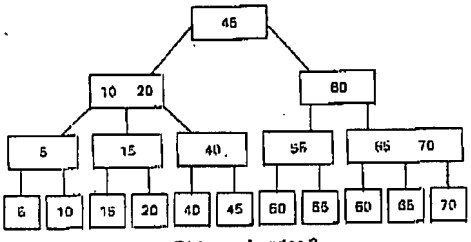
B-tree (A) A height-balanced search tree of order n in which each node contains keys $[k_1, k_2, \ldots k_m]$ in ascending order, where $m \leq n - 1$. The ith subtree of that node contains all the key values falling between k_{i-1} and k_i, with the first subtree containing all key values less than k_1 and the last subtree containing all key values greater than k_m. For example, in the B-tree in the figure below, the lowest notes contain "values less than 10," "11–19," "20–44," "45–59," and "values greater than 60," respectively. *Note:* The height balance of a B-tree is zero. *Synonym:* B-tree index. *See also:* B+-tree; B'-tree. (B) A B-tree as in definition (A) in which every nonterminal node except the root has at least $n/2$ subtrees. *Note:* When a node overflows, it is split into two separate nodes, with the parent node updated accordingly. *See also:* binary tree.



B-tree of order 3

(C) 610.5-1990

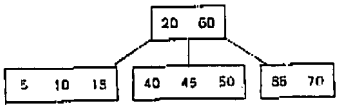
B'-tree A modified B-tree in which identifiers for all nodes are stored in terminal nodes.



B'-tree of order 3

(C) 610.5-1990w

B*-tree A B-tree in which the root node has between 2 and $2+1$ descendants, and each remaining node has between $(2m-1)/3$ and m descendants. That is, two-thirds of the available space in each node is used. *Note:* When a node overflows, keys from that node are moved into one of its sibling nodes if possible; otherwise the node, together with one of its sibling nodes, is split into three nodes.

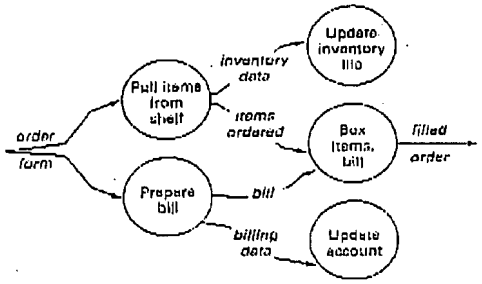


B*-tree of order 3

(C) 610.5-1990w

B-tree index *See:* B-tree.

bubble chart A data flow, data structure, or other diagram in which entities are depicted with circles (bubbles) and relationships are represented by links drawn between the circles. *See also:* box diagram; input-process-output chart; block diagram; flowchart; graph; structure chart.



bubble chart

(C) 610.12-1990

bubble memory A type of nonvolatile storage that uses magnetic fields to create regions of magnetization; a pulsed field breaks the regions into isolated bubbles, free to move along the surface and the presence or absence of a bubble represents digital information. *Synonym:* magnetic bubble memory. (C) 610.10-1994w

bubble sort An exchange sort in which adjacent pairs of items are compared and exchanged, if necessary, and all passes through the set proceed in the same direction. *Synonyms:* propagation sort; sifting sort; exchange selection sort. *Contrast:* cocktail shaker sort. (C) 610.5-1990w

Buchmann-Meyer pattern *See:* light pattern.

buck arm A crossarm placed approximately at right angles to the line crossarm and used for supporting branch or lateral conductors or turning large angles in line conductors. *See also:* tower. (T&D/PE) [10]

bucket (1) (A) **(data management)** An area of storage that may contain more than one record and that is referenced as a whole by some addressing technique. (B) **(data management)** In hashing, a section of a hash table that can hold all records with identical hash values. (C) 610.5-1990

(2) A device designed to be attached to the boom tip of a line truck, crane, or aerial lift and used to support workers in an elevated working position. It is normally constructed of fiberglass to reduce its physical weight, maintain strength, and obtain good dielectric characteristics *Synonym:* basket. (T&D/PE) 516-1995, 524-1992r

(3) A colloquial reference for an area of storage that may contain more than one record and that is referenced as a whole by some addressing technique. (C) 610.10-1994w

bucket bell *See:* aerial bell.

buffalo *See:* conductor grip.

buffer (1) (A) **(supervisory control, data acquisition, and automatic control) (buffer storage)** A device in which data are stored temporarily, in the course of transmission from one point to another; used to compensate for a difference in the flow of data, or time of occurrence of events, when transmitting data from one device to another. (B) **(supervisory con-**

trol, data acquisition, and automatic control) (buffer storage) An isolating circuit used to prevent a driven circuit from influencing a driving circuit. (C) (computers) A device or storage area used to store data temporarily to compensate for differences in rates of data flow, time of occurrence of events, or amounts of data that can be handled by the devices or processes involved in the transfer or use of the data. *Synonym:* input buffer. (D) (computers) A routine that accomplishes the objectives in definition (A). (E) (computers) To allocate, schedule, or use devices or storage areas as in definition (A). *See also:* simple buffering; anticipatory buffering; dynamic buffering. (SWG/SUB/PE) C37.1-1987

(2) (data processing) A storage device used to compensate for a difference in rate of flow of information or time of occurrence of events when transmitting information from one device to another. (C) 162-1963w

(3) (elevators) A device designed to stop a descending car or counterweight beyond its normal limit of travel by storing or by absorbing and dissipating the kinetic energy of the car or counterweight. *See also:* elevator. (PE/EEC) [119]

(4) A device or storage area used to store data temporarily to compensate for differences in rates of data flow, time or occurrence of events, or amounts of data that can be handled by the devices or processes involved in the transfer or use of the data. *Synonyms:* input-output area; output buffer; input buffer. (C) 610.10-1994w

(5) An intermediate data storage location used to compensate for the difference in rate of flow of data or time of occurrence of events when transmitting information from one device to another. (IM/ST) 1451.2-1997

(6) (relay) *See also:* relay spring stud.

buffer amplifier (1) (general) An amplifier in which the reaction of output-load-impedance variation on the input circuit is reduced to a minimum for isolation purposes. *See also:* unloading amplifier; amplifier. (AP/C/ANT) 145-1983s, 165-1977w

(2) An amplifier employed in analog computers that produces an output signal equal in magnitude to the input signal but always of one polarity. *Note:* This isolates a preceding circuit from the effects of the following circuit. *See also:* unloading amplifier. (C) 610.10-1994w

buffered channel A channel in which the data is placed into a buffer prior to a trigger event and then transmitted or acted upon following that trigger event. This contrasts with an unbuffered channel in which the data is not taken by, or available to, the channel until following the trigger event. (IM/ST) 1451.2-1997

buffered computer A computer that can perform input-output and process operations simultaneously by using input and output buffers. (C) 610.10-1994w

buffered input Input that is received using buffers. (C) 610.5-1990w

buffered interconnect (BI) A device that implements an intersegment connection such that the FASTBUS protocol (FBP) on one segment is not synchronized with that on the other. (NID) 960-1993

buffered write A write transaction that appears to complete when the request is queued in the agent or responder. A buffered-write transaction returns an optimistic (done_correct) status before the responder's completion status (which could report an error) is available. (C/MM) 1212-1991s

buffering The process of using a buffer. *See also:* dynamic buffering. (C) 610.10-1994w

buffer memory (sequential events recording systems) The memory used to compensate for the difference in rate of flow of information or time of occurrence of events when transmitting information from one device to another. *See also:* storage; buffer; event. (PE/EDPG) [1]

buffer pool A collection of buffers that can be allocated and used as needed. (C) 610.5-1990w

buffer prefix An area contained within a buffer that is used to store control information for the buffer. (C) 610.10-1994w

buffer register *See:* data buffer register; input

buffers (buffer salts) Salts or other compound changes in the pH of a solution upon the ad or alkali. *See also:* ion.

buffer salts *See:* buffers.

buffer storage (1) An intermediate storage n data input and active storage.

(2) (data management) A storage device t buffer. *Synonym:* buffer store. (

(3) (telecommunications) Memory provid switching system or digital facility interfac pensate for timing drift and frame registratio tween a DFI and the switching system. Re bility of slips caused by environmentally modulation, such as those resulting from diu variations. The mechanism for absorbing sli a local digital switch could consist of seve stores that are alternately written and read. lows the two clocks to drift within the lim storage. In addition, a type of hysteresis sh at the DFI whereby a buffer that was inve protected against an immediate slip in the r Enough buffering should be used to minir rences. (COM/

(4) (A) A type of storage that is used as te to compensate for differences in data rate u *also:* dynamic buffering. (B) A portion of r is assigned to temporary storage as in defin

buffer store *See:* buffer storage.

buffing (electroplating) The smoothing of a means of flexible wheels, to the surface of w particles are applied, usually in the form position or paste. *See also:* electroplating.

bug (1) (telegraphy) A semiautomatic telegr movement of a lever to one side produces a spaced dots and movement to the other side dash. *See also:* fault; error.

(2) In computer hardware, a recurring phys prevents a system or system component gether properly. (

bugduster An attachment used on shortwall to remove cuttings (bugdust) from back of pile them at a point that will not interfere v

bug seeding *See:* fault seeding; error seeding

build (software) An operational version of ponent that incorporates a specified subset that the final product will provide.

(2) (A) A version of the software that meets of the requirements that the completed sc (B) The period of time during which such oped. *Note:* The relationship of the terms sion" is up to the developer; for example, versions to reach a build, a build may be parallel versions (such as to different sites) be used as synonyms. (C/SE)

builder The entity manufacturing the produc (VT) 1475

building A structure which stands alone or wi adjoining structures by fire walls with al protected by approved fire walls. (

building block (1) (software) An individu which is utilized by higher-level programs

(2) (test, measurement, and diagnostic programmable measurement or stimulus d timeter, power supply switching unit, fre stalled as an integral part of the automatic

building bolt (rotating machinery) A bolt u ment and clamping of parts.